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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,420	07/23/2003	Nancy Auestad	6960USP1	9175

25755 7590 06/29/2007

ROSS PRODUCTS DIVISION OF ABBOTT LABORATORIES
DEPARTMENT 108140-DS/1
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EXAMINER	
ROYDS, LESLIE A	

ART UNIT	PAPER NUMBER
1614	

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06/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/625,420	AUESTAD ET AL.	
	Examiner	Art Unit	
	Leslie A. Royds	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 30-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 30-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-11 and 30-32 are presented for examination.

A request for continued examination under 37 C.F.R. 1.114, including the fee set forth in 37 C.F.R. 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 C.F.R. 1.114, and the fee set forth in 37 C.F.R. 1.17(e) has been timely paid, the finality of the previous Office Action has been withdrawn pursuant to 37 C.F.R. 1.114. Applicant's payment and submission filed April 13, 2007 has been received and entered into the present application. Accordingly, prosecution has been reopened and, accordingly, the notice of appeal filed February 20, 2007 is now moot.

Claims 1-11 and 30-32 are pending and under examination. Claims 30-32 are newly added.

Applicant's arguments, filed April 13, 2007, have been fully considered. Rejections not reiterated from previous Office Actions are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of

each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Bogentoft (WO 87/03198; 1987), in light of The Merck Index (Monograph 5383, page 867), Brenna JT ("Efficiency of Conversion of [alpha]-Linolenic Acid to Long Chain n-3 Fatty Acids in Man", *Current Opinion in Clinical Nutrition and Metabolic Care*, 5(2):127-132, March 2002; Abstract Only) and Gil et al. (U.S. Patent No. 5,709,888; 1998), each cited to show a fact and each already of record, for the reasons of record set forth at pages 5-10 of the previous Office Action dated November 17, 2006, of which said reasons are herein incorporated by reference, and further in view of newly cited Stedman's Medical Dictionary (Twenty-Second Edition, 1972; p.416) and Garret et al. (*Biochemistry*, 1999; p.242-243), cited also to show facts in response to Applicant's arguments.

Applicant traverses the present rejection, stating that Bogentoft discloses the use of enteric coated dosage forms designed to deliver unabsorbed material directly to the ileum, which differs from Applicant's method in that the instantly claimed invention is clearly not directed to enterically coated materials because none of Applicant's disclosed products are enteric-coated. Applicant further submits that Bogentoft teaches the administration of compositions that are not dissolved in the stomach and go directly to the ileum unabsorbed, where Applicant's method, by contrast, involves conventional oral or enteral administration of the compositions directly to the stomach. Applicant asserts that Bogentoft fails to disclose the specific selection of triacylglycerol esters of n-3 polyunsatutrated fatty acids and additionally asserts that, though alpha-linolenic acid may be partially converted to docosahexaenoic acid (DHA), the instant claims recite the administration of DHA, not a precursor thereof.

Applicant's traversal has been fully and carefully considered in its entirety, but fails to be persuasive.

First, Applicant is attempting to draw a patentable distinction between the method disclosed by Bogentoft and the instantly claimed method on the grounds that the route of administration of Bogentoft is clearly different than that presently claimed. Specifically, Applicant alleges that Bogentoft is directed to administration of enteric preparations, where the instant claims are directed to "conventional oral or enteral administration, which includes initial exposure to gastric contents (Specification, p.30, lines 30 and 31)." While the present disclosure has been fully and carefully considered, it is herein noted that Applicant had failed to provide a definition of "enteral administration" such that the skilled artisan would have readily recognized such a term to have the meaning as alleged by Applicant at page 7 of the remarks. Further, though the specification at p.30, l.30-31 has also been considered, it remains that this is merely an exemplary mode of administration (i.e., via intragastric cannula) and there is no indication, either in the specification or claims as originally filed, that this mode is, or was intended to be, the sole mode of administration contemplated for executing the claimed method. Accordingly, the allegation that the present claims exclude the enteric preparations of Bogentoft is clearly not persuasive.

In fact, the specification conspicuously lacks *any* definition of "enteral administration". In the absence of such a definition, the term must be construed as broadly as reasonably possible in accordance with MPEP §2111. For this interpretation, Applicant's attention is directed to newly cited Stedman's Medical Dictionary (Twenty-Second Edition, 1972; p.416), which teaches "enteral" as "within the intestine, as distinguished from parenteral" (col.1, l.1) and "enteric" as "relating to the intestine" (col.1, l.14-15). In view of such a teaching, the fact that Bogentoft teaches oral administration of "enteric" preparations, which are expressly disclosed as designed specifically for release into the small intestine (para.1, p.1), clearly meets the instant limitation directed to "enteral administration", since, as corroborated by Stedman's, "enteral administration" amounts to no more than administration within the intestine. Accordingly, the distinction that Applicant has attempted to draw between the route disclosed

by Bogentoft and that of the instant claims is unclear and fails to distinguish the instant claims over the reference.

Moreover, Applicant additionally admits on the record that, "The present claims, by contrast, are directed to conventional oral or enteral administration, which includes initial exposure to gastric contents (Specification, p.30, lines 30 and 31), not enteric coated delivery of a material to the distal small intestine." The fact that Applicant clearly admits the use of "conventional oral" administration also fails to support his allegation that that mode of administration of Bogentoft is distinct from that presently claimed, since Bogentoft expressly teaches oral administration of the disclosed enteric preparations (p.5, second full paragraph). In addition, regarding Applicant's assertions that the oral or enteral modes of administration as disclosed in the instant application somehow require the initial exposure to gastric contents, Applicant is reminded that (1) the specification does not specifically define such a parameter as a requirement for administration and (2) enteral modes of administration do not, necessarily, as a general rule, require the initial exposure to gastric contents. For example, if the skilled artisan were to administer a composition orally, then there would likely be an initial exposure of the composition to the gastric contents during the metabolic process. However, rectal administration is also an "enteral" mode of administration (as the anal canal is still certainly part of the "intestine" *per se*), but clearly would not involve the initial exposure of the administered composition to the gastric contents. In other words, any alimentary mode of administration, including the oral administration of enteric preparations as disclosed by Bogentoft, clearly meets the Applicant's limitation of "enteral administration", since administration via any mucosal surface of the alimentary canal is clearly "within the intestine" in accordance with the definition of the term "enteral" in the art, absent any specific definition by Applicant.

Second, Applicant expressly argues that, "Bogentoft also fails to disclose or suggest the selection of triacylglycerol esters of n-3 polyunsaturated fatty acids to which all of the present claims are limited." However, such an argument is clearly in error, since the present claims are all limited to the use of

"triacylglycerols" of n-3 polyunsaturated fatty acids, not "triacylglycerol esters" as alleged by Applicant. Accordingly, Bogentoft may be equally silent in such a teaching of "triacylglycerol esters" *per se* as this is not, in fact, what is presently claimed.

However, even if Applicant had alleged that Bogentoft did not teach the use of "triacylglycerols" of n-3 polyunsaturated fatty acids, Applicant is reminded that Bogentoft clearly and expressly teaches the administration of a "hydrophobic substance", wherein the hydrophobic substance is defined as a fatty acid having 6-28 carbons, or an ester or salt thereof (p.3, l.5-7), and wherein the fatty acids linoleic and/or linolenic acid (i.e., an omega-3 polyunsaturated fatty acid as taught by Brenna) are expressly disclosed for use in the disclosed preparation (p.3, l.8-11), and further wherein the one or more fatty acids of the preparation may be used in the form of a triglyceride (p.6, para.1). This is a clear disclosure and suggestion to use any one or more of the disclosed fatty acids, of which the omega-3 polyunsaturated fatty acid alpha-linolenic acid is explicitly taught, in the form of a triacylglycerol as presently claimed. Though Bogentoft uses the term "triglyceride", where the instant claims are directed to "triacylglycerol", Garrett et al. (*Biochemistry*, 1999; p.242-243) teaches that the term "triglyceride" is synonymous with the term "triacylglycerol" and, therefore, does not denote a patentable distinction between the fatty acid triglyceride(s) of Bogentoft and the fatty acid triacylglycerol of the instant claims.

Lastly, in response to Applicant's argument that Bogentoft fails to disclose the specific administration of triacylglycerol esters of docosahexaenoic acid (DHA) and that, though alpha-linolenic acid may be partially converted to DHA in the body, the claims are directed to the administration of DHA, not a precursor thereof, Applicant is reminded that the claims are not, in fact, directed to the administration of triacylglycerol esters, but rather to the administration of a triacylglycerol. Furthermore, the claims solely require the administration of a triacylglycerol of a long-chain n-3 polyunsaturated fatty acid to the mammal [which is clearly met by the teachings of Bogentoft (see, e.g., discussion *supra*)] and that the long-chain n-3 polyunsaturated fatty acid *comprise* docosahexaenoic acid. Accordingly, the very

administration of alpha-linolenic acid would necessarily be converted, at least partially, to docosahexaenoic acid (as evidenced by Brenna) and, therefore, the alpha-linolenic acid long-chain n-3 polyunsaturated fatty acid triglyceride of Bogentoft would unavoidably *comprise* DHA as presently claimed as a result of metabolic conversion. In light of such, Applicant's arguments that the claims require the administration of DHA, not a precursor thereof, are properly not found persuasive.

For these reasons, and those previously made of record at pages 5-10 of the previous Office Action dated November 17, 2006, rejection of claims 1-11 remains proper and is **maintained**.

Claim Rejections - 35 USC § 103 (New Grounds of Rejection)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney et al. (WO 03/043570; Published May 2003, Priority to November 2001) in view of Visser et al. ("Elevated C-Reactive Protein Levels in Overweight and Obese Adults", *Journal of the American Medical Association*, 1999; 282:2131-2135).

Phinney et al. teaches formulations comprising a non-alpha tocopherol in combination with a highly unsaturated fatty acid, such as, e.g., all-cis, 4, 7, 10, 13, 16, 19-docosahexaenoic acid (DHA) (p.1, l.4-8 and p.4, l.16-19), wherein the compounds may be used in a method for reducing one or more biochemical markers of inflammation, including, e.g., reducing C-reactive protein (p.3, l.33-p.4, l.15), particularly for treating conditions that are characterized by an elevation of, e.g., C-reactive protein (p.5, l.4-9). Phinney et al. further teaches that the DHA component may be in triglyceride form (p.11, 30-35) and that the disclosed method may be used in mammalian subjects, such as, e.g., humans, farm animals etc. (p.13, l.27-28). Phinney et al. teaches formulations of the disclosed composition as medical foods and dietary supplements (p.23, l.10-14), which may further comprise vitamins, minerals, dietary substances to supplement the diet by increasing total dietary intake, etc. (p.23, l.19-25), and further teaches that the formulations may be administered orally (p.23, l.26-29), such as via capsules, tablets, pills, soft gel-caps, powders, solutions, dispersions or liquids (p.23, l.34-36). Exemplary dosage amounts of DHA, such as 10-10,000 mg, are disclosed at p.27, l.23-31.

Visser et al. ("Elevated C-Reactive Protein Levels in Overweight and Obese Adults", *Journal of the American Medical Association*, 1999; 282:2131-2135) is cited for its teachings of elevated C-reactive protein (CRP) among persons that were clinically overweight (body mass index [BMI] of 25-29.9 kg/m^2) or obese (BMI of $\geq$ 30 kg/m^2) as compared to persons of normal weight (BMI of <25 kg/m^2) in a study of 16,616 men and nonpregnant women aged 17 years (i.e., adolescent) or older (abstract). Visser et al. further teaches that higher BMI is associated with higher levels of CRP, which suggests low-grade systemic inflammation in overweight and obese persons (abstract). Visser et al. further teaches that elevated CRP levels and obesity are known to be associated with the development of various prevalent diseases, including, e.g., rheumatoid arthritis, diabetes mellitus and cardiovascular disease (para. bridging p.2133-2134).

One of ordinary skill in the art at the time of the invention would have found it *prima facie* obvious to administer the disclosed formulation of Phinney et al. to an overweight or obese adolescent or adult because overweight and obese persons are known to exhibit low-grade inflammation due to elevated levels of C-reactive protein, as evidenced by Visser et al. Such a person would have been motivated to do so to reduce and/or eliminate the low-grade inflammation associated with such elevated levels of CRP and further to reduce the risk of developing other various diseases that are known to be associated with both obesity and elevated levels of CRP, such as, e.g., rheumatoid arthritis, diabetes mellitus and cardiovascular. The skilled artisan would have had a reasonable expectation of success in doing so because the prior art of Visser et al. acknowledged the clear association of elevated levels of CRP with obesity and the development of other serious inflammatory disorders.

Furthermore, though the appetite-decreasing effects of DHA in the claimed amounts (see, e.g., present claim 6, which recites the administration of 84-15,832 mg) are not explicitly noted in the cited references, it is noted that the very teaching of the administration of the identical compound to that presently claimed in the same host (or subject) in the same dosage amount(s) must necessarily possess the same appetite decreasing effect when administered, even though such a property may not have been appreciated by the patentee at the time of the invention. Products of identical chemical composition cannot exert mutually exclusive properties when administered under the same circumstances or, in the present case, the same host in the same total amount. Please reference MPEP §2112.

The explanation of an effect obtained when using a compound cannot confer non-obviousness on a known process if the skilled artisan was already aware of the occurrence of the desired therapeutic effect. In other words, even if the reduction in appetite was not itself recognized as a pharmacological effect of administering DHA in the disclosed dosage amount(s) for the disclosed therapeutic purpose(s) discussed therein, such an effect is not considered a new therapeutic application because a known therapeutic effect and benefit of using this same active compound(s) in the same dosage amount(s) in the

same host was already known in the prior art. Though newly discovered properties of compounds are no doubt important contributions to scientific and pharmaceutical development, the assessment of patentability under 35 U.S.C. 103 is based upon the therapeutic applications and therapeutic effects of the compounds, not properties newly discovered in the same context or environment or purpose that was already taught in the prior art. Furthermore, it is generally well-settled in the courts that a mechanistic property of a chemical compound, when administered under identical conditions, is necessarily present, despite the fact that such a property may not have been readily apparent to, or recognized by, one of ordinary skill in the art.

Regarding the claimed dosage amounts of polyunsaturated fatty acid as compared to those disclosed by Phinney et al., the differences between the dosage amounts of the instant application and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains because the determination of the optimum dosage amounts of the active fatty acid component would have been a matter well within the purview of one of ordinary skill in the art. Such a determination would have been made in accordance with a variety of factors, such as the age, weight, sex, diet and medical condition of the patient, severity of the disease, the route of administration, pharmacological considerations, such as the activity, efficacy, pharmacokinetics and toxicology profiles of the particular compound employed, whether a drug delivery system is utilized and whether a compound is administered as part of a drug combination. Thus, the concentrations that would have actually been employed would have varied widely and, in the absence of evidence to the contrary, the currently claimed specific dosage amounts are not seen to be inconsistent with those that would have been determined by the skilled artisan. Please see MPEP §2144.05.

In addition, the concentration of the active ingredient is a result-effective variable, i.e., a variable that achieves a recognized result, and, therefore, the determination of the optimum workable dosage range

would be well within the practice of routine experimentation by the skilled artisan, absent factual evidence to the contrary, and further, absent any evidence demonstrating a patentable difference between the compositions used and the criticality of the amount(s).

Lastly, regarding the inclusion of protein and/or carbohydrates into the medical food and/or dietary supplement of Phinney et al. would have been *prima facie* obvious, and would have naturally commended itself to, one of ordinary skill in the art at the time of the invention motivated by a desire to provide a balanced food or dietary supplement as possible to encourage proper diet and nutrition to promote the health of the subject in whom the method was to be practiced.

Conclusion

Rejection of claims 1-11 and 30-32 is proper and is **maintained**.

No claims of the present application are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie A. Royds whose telephone number is (571)-272-6096. The examiner can normally be reached on Monday-Friday (9:00 AM-5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin H. Marschel can be reached on (571)-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leslie A. Royds
Patent Examiner
Art Unit 1614

June 19, 2007

ARDIN H. MARSCHEL
SUPERVISORY PATENT EXAMINER